ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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THOMAS V. SKINNER, DIRECTOR

217-782-5504

April 24, 2001

Mr. Ron St. John, VP
Clayton Group Services
3140 Finley Road
Downers Grove, IL 60515

Refer to: 0430555004 -- Dupage County
Lisle/Lockformer
SRP/Technical Reports

0430555137 -- Dupage County
Lisle/Lisle Residential Wells
Superfund/Technical Reports

Dear Mr. St. John:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Comprehensive VOC Investigation Work Plan prepared by Clayton Group Services (Clayton) and received by the Illinois EPA on March 27, 2001.

The primary reason for installing the bedrock wells as open boreholes (as opposed to installing specific screened intervals) is to allow for the collection of both hydrogeologic and analytical data from independent vertical zones along the entire depth of the borehole (through packer testing). The Illinois EPA anticipated that all of the bedrock wells would be installed prior to the packer testing being performed, and that a detailed protocol for performing the packer tests would be submitted and approved by the Illinois EPA prior to their being performed.

Illinois EPA does not agree with using packer testing data collected during the installation of a bedrock wells to determine a screening depth for that well. It is not appropriate to conduct such testing immediately after (typically within one to two hours) drilling through the bedrock zone in question with a rotosonic drill rig, which generates heat and requires the injection of significant amounts of water and air for cooling and lubrication. We are investigating concentrations of a highly volatile compounds at potentially single-digit parts per billion concentrations; such analytical testing should not be performed immediately after such a significant subsurface disturbance has taken place.

The analytical data that Clayton is currently generating may be useful for screening purposes, and could reasonably be used to develop a more limited and focused packer testing program after all of the wells have been installed. The Illinois EPA does not, however, agree that the current packer testing data may be used to select a screening depth for the borehole, effectively eliminating the ability to collect valid analytical data from over 80 percent of the depth of the well. No well screens should be installed in any bedrock borehole without the prior approval of the Illinois EPA.

The brief description of the packer testing provided in the revised Work Plan does not currently contain sufficient detail. Specifically this section should include:

A Detailed Groundwater Sampling Protocol. A similar method of purging and water quality monitoring (pH, conductivity, temperature) to that described in Section 3.2 should be followed prior to collecting packer test samples. It is important to demonstrate that the collected groundwater samples are representative. Given the importance of the packer test data, it is crucial that representative groundwater samples are obtained. The sampling protocol should also specify the minimum amount of time after well installation at which packer testing can be performed.

A Description of Pumping Flow Rate and Duration. Packer testing may be conducted across 10-foot intervals in the deepest bedrock wells, but should be conducted in smaller intervals (suggest 5 to 8 feet) in the bedrock wells that extend only 25 feet into bedrock). Packer tests should begin at a maximum pumping rate (suggest 8-10 gpm) to evaluate the yield of each interval. The removal of at least the equivalent volume of water lost during the drilling process for each bedrock zone should be addressed in the Work Plan. The duration of pumping for each zone should not be less than approximately 30 minutes unless the tested zone is found to dry out; this situation should also be addressed in the Work Plan.

A description of water level/pressure measurements. Transducers should be placed both above and below the tested interval in the borehole to monitor water levels during testing to ensure that an adequate seal is maintained. Additionally, during the packer tests, transducers should be placed in adjacent site wells to evaluate potential hydraulic connections between these wells in various fracture sets.

Page 3-8. Section 3.2 Groundwater Sampling. Please clarify whether three casing volumes or three filter pack volumes will be removed during purging. (As per General Comment #1 above, this question applies only to wells installed in unconsolidated materials.)

Page 3-16. Section 3.8.1 Sewer System Investigation. The two highest PID readings from each boring should be submitted for analysis. In the event the boring depth continues past 15 feet the two highest PID readings from each ten foot interval should be submitted for analysis.

Page 3-18. Section 3.9 Further TCE Tank Source Area Investigation. Same as #4 above.

Page 3-19. Section 3.9 Further TCE Tank Source Area Investigation. The purpose of the investigation in this area is to provide both horizontal and vertical delineation of the source area. Please address how this is accomplished if the vertical depth of the soil borings terminate at the lower till layer of soil.

Responses should be mailed to Stan Komperda. If you have any questions or comments, please feel free to contact me at 217-782-5504.

Sincerely,

Stanley F. Komperda
Remedial Project Manager
State Sites Unit
Bureau of Land

Cc:Don Gimbel, DLC- Des Plaines
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